

# Bridge Repairs vs. Replacement

Smart Fixes for “LONGER”  
Term Solutions



**Lafayette**  
CONSOLIDATED GOVERNMENT

# The Great Task – A Bridge Program

NO.	BRIDGE STREET NAME (COULEE CROSSING)	RECALL	OWNER	CITY DISTRICT	PARISH DISTRICT	TYPE*	BUILT	REPLACEMENT REQ'D	0-5 YEARS REPLACEMENT ESTIMATED	0-5 YEARS ESTIMATED PROJECT COST	5-10 YEARS REPLACEMENT ESTIMATED	5-10 YEARS ESTIMATED PROJECT COST	10+ YEARS REPLACEMENT ESTIMATED	10+ YEARS ESTIMATED PROJECT COST
61	JENKINS RD (COULEE ILE DES CANNES LATERAL 13)	L11-0001	LAF PARISH		2	TTTRES	UNKNOWN	YES	1	\$ 350,000				
62	AUSTRIA RD (BAYOU QUEUE DE TORTUE LATERAL 5)	L6-0001	LAF PARISH		2	TTTRES	UNKNOWN	YES			1	\$ 450,000		
63	STUTES RD (COULEE GRANGES LATERAL 1)	O10-0001	LAF PARISH		2	TTTRES	UNKNOWN	YES	1	\$ 350,000				
64	RANCH RD (COULEE GRANGES LATERAL 1)	P10-0001	LAF PARISH		2	TTTRES	UNKNOWN	YES		\$ 350,000				
65	WIL TURNER RD (COULEE GRANGES)	R8-0001	LAF PARISH		2	COPCSS	UNKNOWN	YES					1	\$ 500,000
66	BAYOU TORTUE RD (BAYOU TORTUE)	200114	LAF PARISH		3	LWPCSS	1967	YES	1	\$ 1,125,000				
67	GALLET RD (ANSELM COULEE)	200049	LAF PARISH		3	TTTRES	1968	YES			1	\$ 850,000		
68	LA NEUVILLE RD (ISAAC VEROT COULEE LATERAL 6A-1)	200137	LAF PARISH		3	LWPCSS	1976	YES			1	\$ 1,125,000		
69	N GIROUARD RD (COULEE FORTUNE)	030021	LAF PARISH		3	LWPCSS	1978	YES			1	\$ 1,125,000		
70	CHEMIN METAIRIE RD (ISAAC VEROT COULEE LATERAL 6E)	200148	LAF PARISH		3	LWPCSS	1979	YES			1	\$ 850,000		
71	GALLET RD (DARBY COULEE)	200048	LAF PARISH		3	LWPCSS	1982	YES					1	\$ 850,000
72	SWITZERLAND RD (DARBY COULEE)	200058	LAF PARISH		3	RRFLCR	1985	YES	1	\$ 850,000				

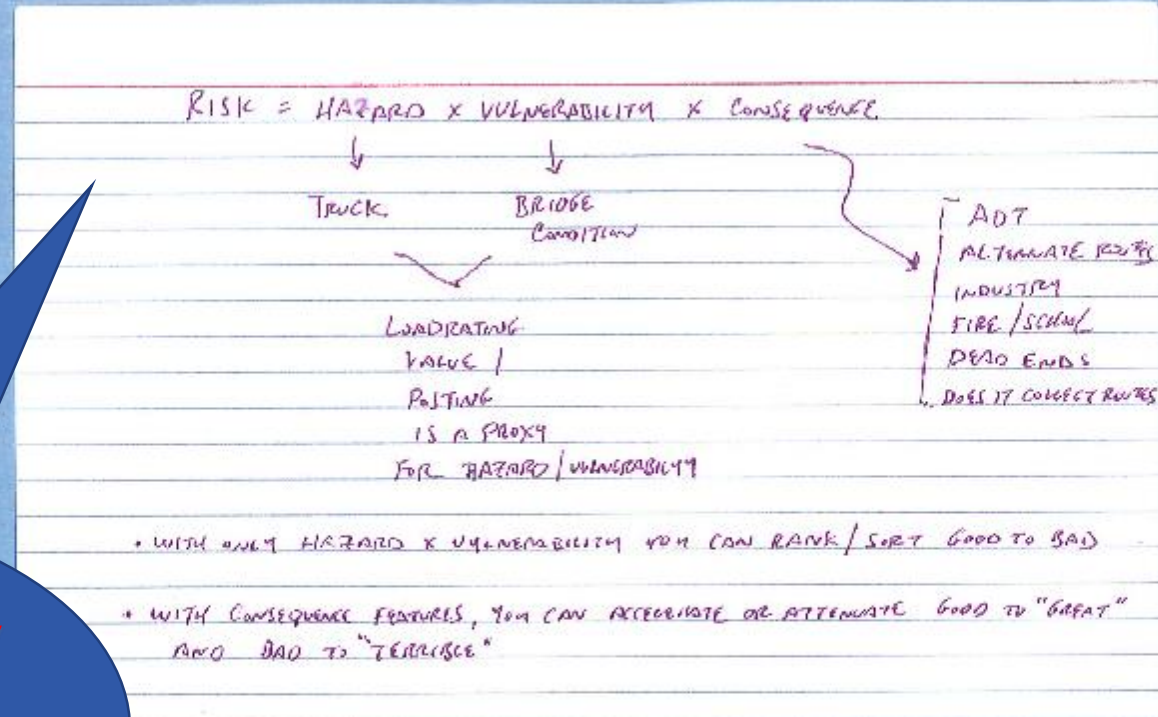
A True Task: Forming a Bridge Program

191 Bridges: 96 City - 95 Parish

Average Age Built ~ 50 years

Replacement Needed: 73

# Joey's Short Hand Categories:



Clearly, way  
more  
detailed.

# The Great Task – A Bridge Program

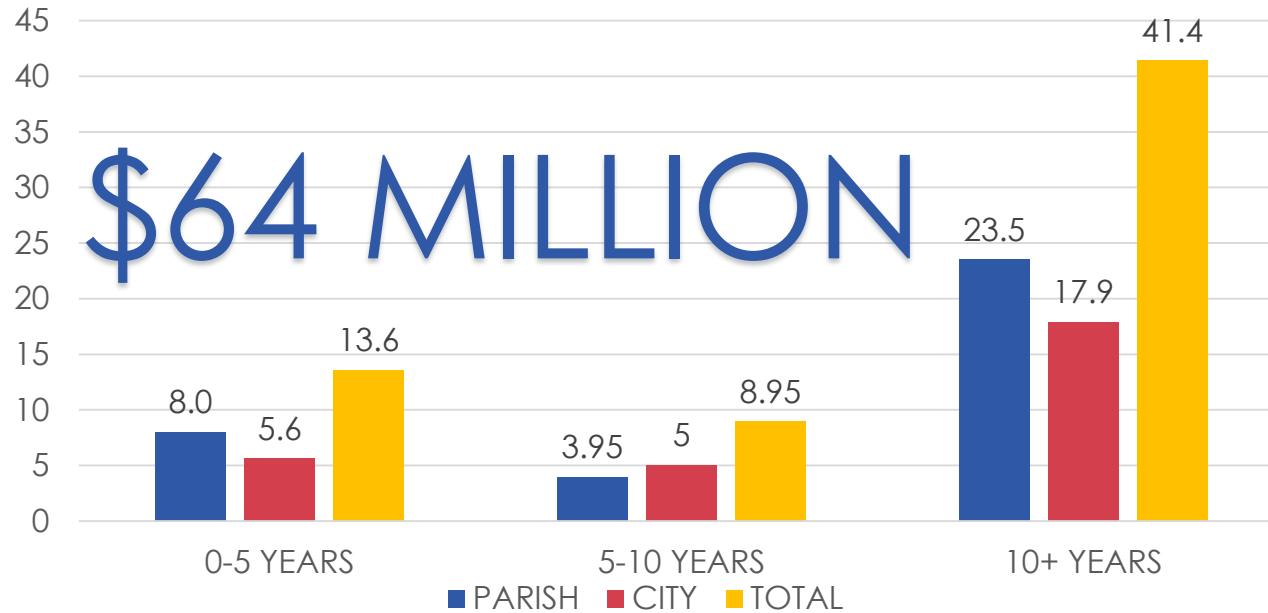
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 Replacement Needed: 73  
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 Funding Categories:  
 0-5 Years; 5-10 Years; 10+ Years

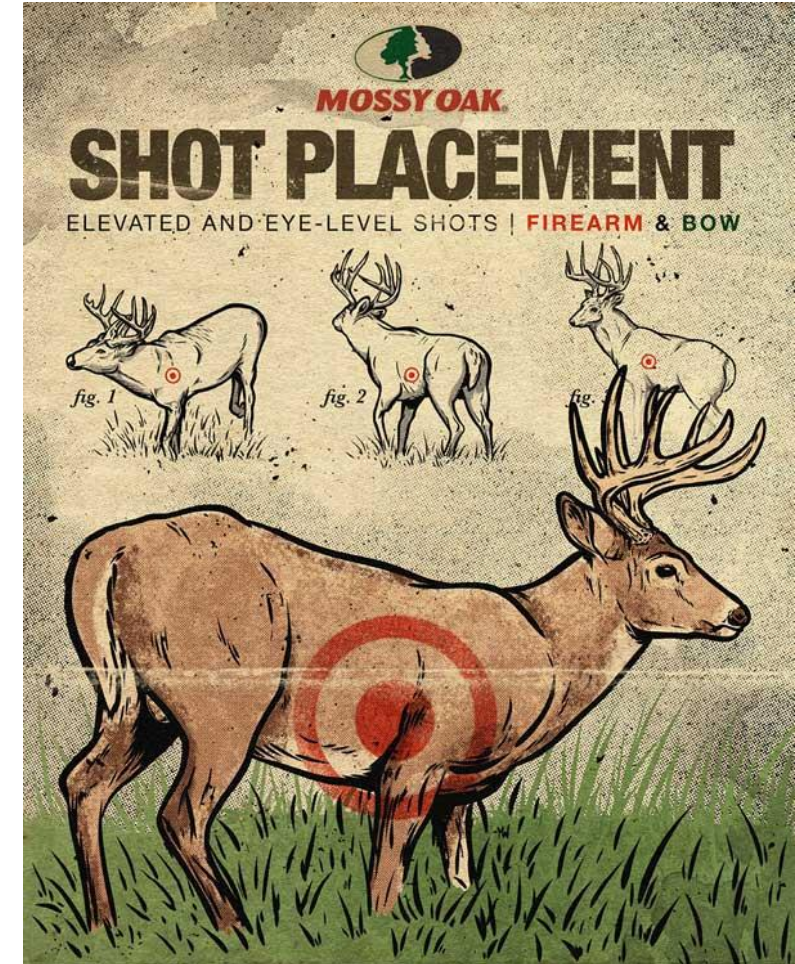


# BRIDGE PROGRAM - FUNDING

PROJECT FUNDS NEEDED IN MILLIONS  
(2020 USD)



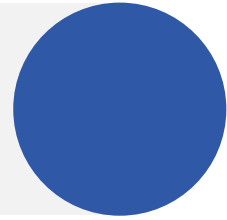
TIMBER PILES  
LIGHT-WEIGHT DECKS – SPALLS  
APPROACH SLAB FAILURES  
SIGNIFICANT SCOUR



# Who has the Capabilities?...

Dan Russell: Maintains Required DOTD Bridge Files; Works Together with me going through Bridge Reports and following up with Inspections; communicates to the Bridge Crew Foreman the work that I have prioritized into Multiple Day; Single Day, Half Day, or a Few Hours Repairs.

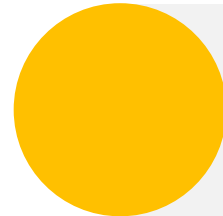
## BRIDGE CREW



- Intermediate Bent Timber Pile Splices and Mudsills
- Timber Bridge Repairs
- Timber Abutment Repairs
- Patching: Vertical and Overhead
  - Traffic Control Required for Top of Deck
- Pump Flowable Fill for Approach Slabs – Minor Operations
- **Pulled off on other Needs, especially rain events**
- **Temp. Workers vs. On-Staff Workers?**
- **Equipment Operators?**

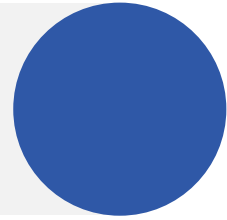
## Bridges Closed to Traffic Dedicated, Qualified Work Crew

- Timber Pile Splices
  - Over Water
  - Multiple per Bent
  - Longer Piles
- Patching: Top of Deck; Vertical and Overhead
- Joint Sealing
- Remove and Replace: Timber Abutments; Approach Slabs; Asphalt Tie-Ins
- Sheet Piles



## CONTRACTOR

## BRIDGE REPAIRS 2021 RELIANT INDUSTRIAL SOLUTIONS, LLC



\$2,337,330

17 Bridges – 6 City; 11 Parish

12 Light-Weight Slab Span

5 Hard Rock Slab Span

1 – 1 Span – 19' Long

5 – 2 Span – 38' Long

5 – 3 Span – 57' Long

2 – 6 Span – 114' Long

1 – 7 Span – 133' Long

2 – 8 Span – 152' Long

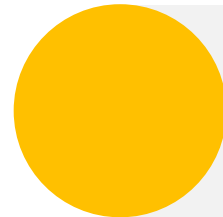
\$629,660

2 Bridges over Bayou Carencro - Parish

Hard-Rock Slab Span – Timber Piles

6 Span - 114' Long Crossing

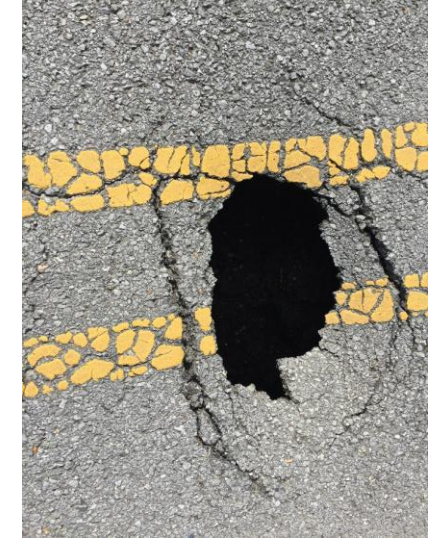
4 Span - 76' Long Crossing



## MECHE RD AND WATERS RD BRIDGE REPAIRS SIEMA CONSTRUCTION, LLC



# APPROACH SLABS AND SCOUR



Approach Slab extends directly from Clear Width.

- Timber Abutment Decay: substantial and Minor
- Settlement that causes endless patching
- Cracked approach slabs



# APPROACH SLABS AND SCOUR - PREVENTION



A Simple Fix  
A Simple Curb:  
Get the Water  
Away!



# APPROACH SLAB AND SCOUR - FIXES





# PATCHING – VERTICAL, HORIZONTAL, OVERHEAD AND SEALING





# PATCHING – VERTICAL, HORIZONTAL, OVERHEAD AND SEALING



- LIGHT-WEIGHT CONCRETE AND POPCORN + LACK OF SEALING CAUSES:
- TENSION RODS TO CORRODE, OVERHEAD SPALLS, AND LOSS OF SHEAR KEYS
  - WATER GETS INTO THE PIN CONNECTION CAUSING THE PILE TO DECAY AND HOLLOW OUT FROM THE INSIDE





# TIMBER PILES



Which Delightful Word can you think of was here?



It was  
"DAME".

"a woman of rank,  
station, or authority" –  
What a Welcome!

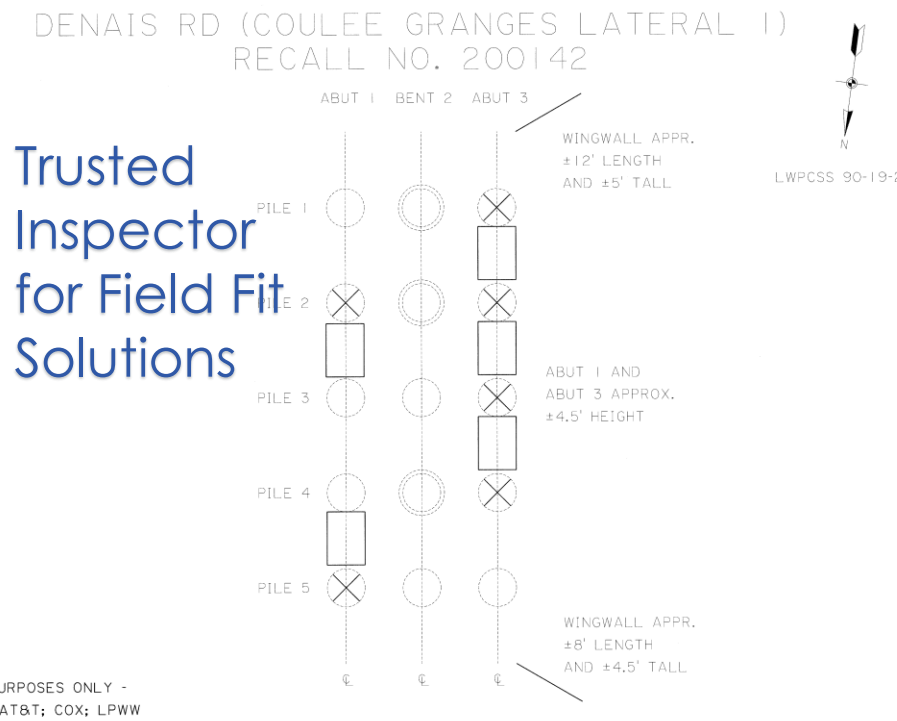


# Pile Splices: End and Intermediate Bents





# Simple Plan Preparation + Trusted Inspector Numerous Field Fit Situations

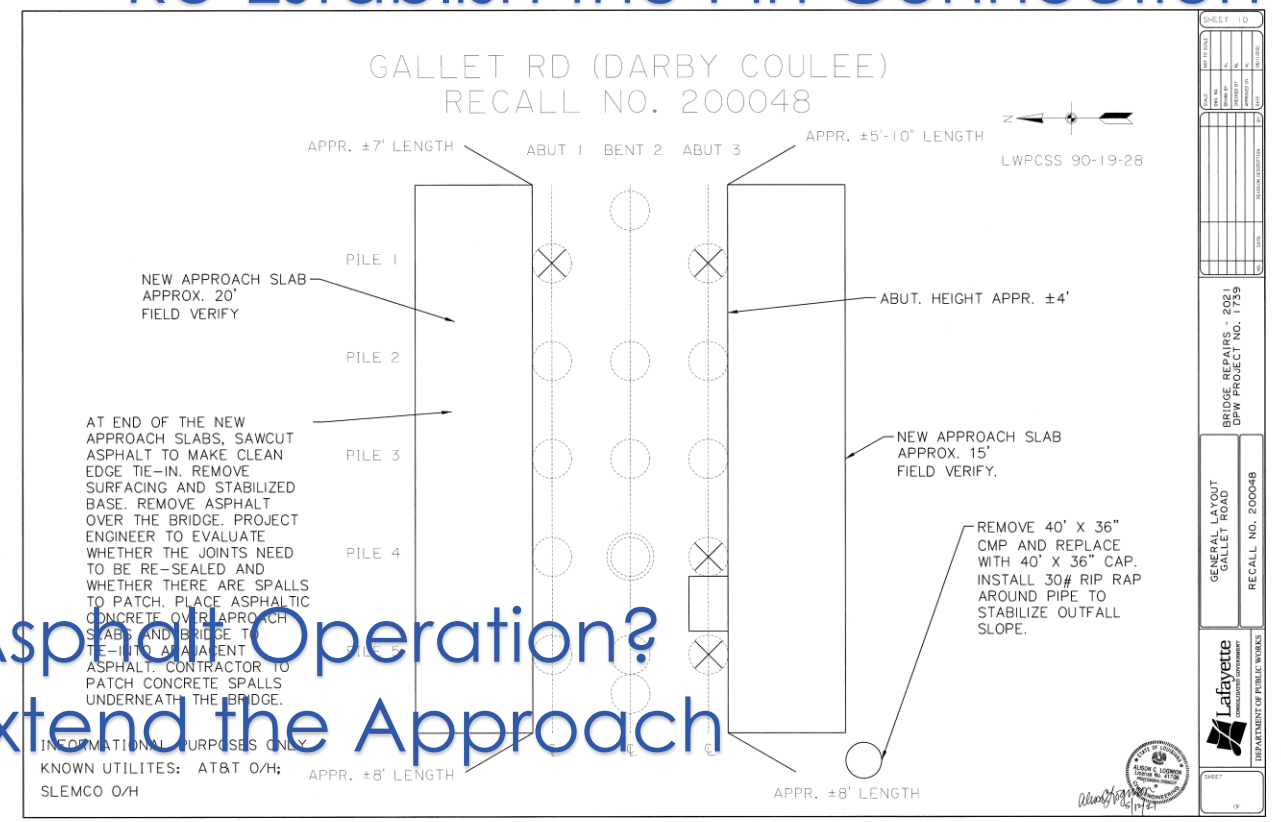


Poor Asphalt Tie-in?  
Is it worth Mobilizing an Asphalt Operation?  
One Solution: Minimally Extend the Approach

NOTE:  
CONTRACTOR TO RE-ESTABLISH THE PIN CONNECTION AT THE PILE-CAP INTERFACE SUCH THAT THE BOTTOM OF THE CAP IS DIRECTLY BEARING ON THE FLUSH TOP OF THE PILE TO TRANSFER THE LOAD. NO GAPS ARE PERMITTED. NO WEDGE PLATES ARE ALLOWED. CONTRACTOR TO PROVIDE NEW PINS IF THE ORIGINAL PINS ARE DAMAGED AT NDP. CONTRACTOR TO MAKE PROVISIONS AT THE ABUTMENT PILES TO INSTALL ABUTMENT BOARDS OR SHEET PILES.

REFER TO THE GENERAL NOTES REGARDING ALTERNATE PILE SPLICE OPTIONS.

## Re-Establish the Pin Connection



- PATCHING + SEALING
- SEALING ONLY
- SCOUR – EROSION CONTROL
  - MAJOR PROJECTS
- TIMBER PILES
- FIX ALL THAT IS TO BE FIXED AT ONE TIME
- One Last Note: Guardrail Posts!





# THANK YOU

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